

**Listing of the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

- 1                    1 (previously presented): A molecule of the structure  $A - X - B$ , wherein  
2                    **B** is a peptide portion of about 5 to about 20 basic amino acid residues, which is  
3 suitable for cellular uptake,  
4                    **A** is a peptide portion of about 2 to about 20 acidic amino acid residues, which  
5 when linked with portion **B** is effective to inhibit cellular uptake of portion **B**, and  
6                    **X** is a linker of about 2 to about 100 atoms joining **A** with **B**, which can be  
7 cleaved under physiological conditions, wherein **X** comprises the sequence of SEQ ID NO: 1.
- 1                    2 (original): The molecule of claim 1, wherein said peptide portion **A** comprises  
2 about 5 to about 9 glutamates or aspartates.
- 1                    3 (original): The molecule of claim 2, wherein said peptide portion **A** comprises  
2 about 5 to about 9 consecutive glutamates or aspartates.
- 1                    4 (original): The molecule of claim 1, wherein said peptide portion **B** comprises  
2 about 9 to about 16 arginines.
- 1                    5 (original): The molecule of claim 4, wherein said peptide portion **B** comprises  
2 about 9 to about 16 consecutive arginines.
- 1                    6 (original): The molecule of claim 1, wherein said peptide portion **A** comprises  
2 D-amino acids.
- 1                    7 (original): The molecule of claim 1, wherein said peptide portion **B** comprises  
2 D-amino acids.

8 (original): The molecule of claim 1, wherein said peptide portion **A** consists of D-amino acids.

9 (original): The molecule of claim 1, wherein said peptide portion **B** consists of D-amino acids.

10 (original): The molecule of claim 1, wherein said peptide portions **A** and **B** consists of D-amino acids.

11 (previously presented): A molecule for transporting a cargo moiety across a cell membrane of the structure **A – X – B – C**, wherein

**C** is a portion comprising a cargo moiety,

**B** is a peptide portion of about 5 to about 20 basic amino acid residues, which is suitable for cellular uptake, is covalently linked to portion **C**, and is effective to enhance transport of cargo portion **C** across a cell membrane,

**A** is a peptide portion of about 2 to about 20 acidic amino acid residues, which when linked with portion **B** is effective to inhibit cellular uptake of **B – C**, and

**X** is a cleavable linker of about 2 to about 100 atoms joining **A** with **B – C**, which can be cleaved under physiological conditions, wherein **X** comprises the sequence of SEQ ID

NO: 1.

12 (original): The molecule of claim 11, wherein said peptide portion **A** comprises amino acids selected from the group of acidic amino acids consisting of glutamate and aspartate.

13 (original): The molecule of claim 11, wherein said peptide portion **B** comprises amino acids selected from the group of basic amino acids consisting of arginine and histidine.

14 (original): The molecule of claim 11, wherein said cargo portion **C** is selected from the group of cargo moieties consisting of a fluorescent moiety, a fluorescence-quenching

moiety, a radioactive moiety, a radiopaque moiety, a paramagnetic moiety, a nanoparticle, a vesicle, a molecular beacon, a marker, a marker enzyme, a contrast agent, a chemotherapeutic agent, and a radiation-sensitizer.

15 (original): The molecule of claim 14, wherein the cargo portion C comprises a contrast agent for diagnostic imaging.

16 (original): The molecule of claim 14, wherein the cargo portion C comprises a radiation sensitizer for radiation therapy.

17 (original): The molecule of claim 11, wherein said peptide portion A comprises about 5 to about 9 glutamates or aspartates.

18 (original): The molecule of claim 17, wherein said peptide portion A comprises about 5 to about 9 consecutive glutamates or aspartates.

19 (original): The molecule of claim 11, wherein said portion peptide B comprises between about 9 to about 16 arginines.

20 (original): The molecule of claim 19, wherein said peptide portion B comprises between about 9 to about 16 consecutive arginines.

21 (original): The molecule of claim 11, wherein said peptide portion A comprises D-amino acids.

22 (original): The molecule of claim 11, wherein said peptide portion B comprises D-amino acids.

23 (original): The molecule of claim 11, wherein said peptide portion A consists of D-amino acids.

24 (original): The molecule of claim 11, wherein said peptide portion B consists of D-amino acids.

25 (original): The molecule of claim 11, wherein said peptide portions **A** and **B** consist of D-amino acids.

26 (original): The molecule of claim 25, wherein said peptide portion **B** consists of D-arginine amino acids.

27 (original): The molecule of claim 11, wherein said peptide portion **A** is located at a terminus of a polypeptide chain comprising **B – C**.

28 (original): The molecule of claim 11, wherein said peptide portion **A** is located at the amino terminus of a polypeptide chain comprising **B – C**.

29 (original): The molecule of claim 11, wherein said peptide portion **A** is linked near to or at the amino terminus of a polypeptide chain comprising **B – C**.

30 (original): The molecule of claim 11, wherein said peptide portion **A** is linked near to or at the carboxy terminus of a polypeptide chain comprising **B – C**.

31 (original): The molecule of claim 11, wherein **B – C** comprises a polypeptide chain having ends consisting of a **B**-side terminus and a **C**-side terminus, and wherein cleavable linker **X** is disposed near or at said **B**-side terminus.

32 (original): The molecule of claim 11, wherein **B – C** comprises a polypeptide chain having ends consisting of a **B**-side terminus and a **C**-side terminus, and wherein cleavable linker **X** is disposed near or at said **C**-side terminus.

33-36 (canceled)

37 (original): The molecule of claim 11, wherein cleavable linker **X** comprises aminocaproic acid.

38-44 (canceled)

45 (original): The molecule of claim 11, comprising a plurality of cleavable linkers **X** linking a portion **A** to a structure **B – C**.

46 (previously presented): A pharmaceutical composition comprising:  
A molecule of the structure **A – X – B**, wherein  
**B** is a peptide portion of about 5 to about 20 basic amino acid residues, which is suitable for cellular uptake,

**A** is a peptide portion of about 2 to about 20 acidic amino acid residues, which when linked with portion **B** is effective to inhibit cellular uptake of portion **B**, and

**X** is a cleavable linker of about 3 to about 30 atoms joining **A** with **B**, which can be cleaved under physiological conditions, wherein **X** comprises the sequence of SEQ ID NO: 1; and

a pharmaceutically acceptable carrier.

47 (previously presented): The pharmaceutical composition of claim 46, wherein said portion **A** has between about 5 to about 9 acidic amino acid residues, and said portion **B** has between about 9 to about 16 basic amino acid residues.

48 (original): The pharmaceutical composition of claim 46 or 47, further comprising a portion **C** covalently attached to said portion **B** and comprising a cargo moiety.

49-55 (canceled)

56 (original): The molecule of claim 11, comprising a single cargo portion **C** linked to a plurality of portions **B**, each of portions **B** being linked to a cleavable linker portion **X** linked to an acidic portion **A**.